DOCUMENT RESUME

ED 232 782 PS 013 784

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TITLE Title I Early Childhood Education Program. Final Evaluation Report.
PUB DATE Jul 82
NOTE 34p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Achievement Gains; *Attendance; Elementary Education; *Elementary School Students; Eligibility; Followup Studies; *Preschool Children; Preschool Education; Pretests Posttests; Program Descriptions; Program Evaluation; *Student Characteristics
IDENTIFIERS Elementary Secondary Education Act Title I; *Oregon (Portland)

ABSTRACT

This report evaluates the Portland Public Schools Title I preschool education program. Organized into four sections, the report provides comments and recommendations, a description of the program, a discussion of evaluation method and findings, and reports of a follow-up study of former program participants. The comments and recommendations indicate children made exceptional improvement in the areas of classroom discipline and student performance; teacher/teacher-aide relationships also improved. Teachers' and teacher-aides' attention to time on tasks was discussed as having a positive effect on students' learning. Teacher aides were thought to need more training in affective development and maintaining on-task behavior. Follow-up studies of former preschool students indicated a decrease in achievement during a 4- or 5-year period. Further follow-up study of the former students was recommended. Program organization, student population, recruitment, attendance, adequacy of facilities, learning materials, educational activities, and project costs were discussed, and program goals in language, arithmetic, small motor skills and social skills were evaluated. Sample forms used for recording student rating and mastery were included. (BJD)

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Title I Early Childhood Education Program

Final Evaluation Report

July 1982

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Portland Public Schools
Evaluation Department

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Comments and Recommendations

This section of the report briefly summarizes the evaluation of the Title I Early Childhood Education program for the 1981-82 school year. Comments and recommendations based on observations and the information collected during this year are offered.

Over the last few years, the Title I preschool classes appeared to be improving, and this year the improvement seemed exceptional. As a group, the classrooms appeared to be uniformly more orderly with more children performing as they were instructed more consistently. The techniques employed by teachers and aides appeared to work exceptionally well in maintaining an appropriate learning environment. Three teachers were new this year, another was new last year, and the other has been a preschool teacher for several years.

At the beginning of the school year, the evaluator discussed with teachers general research findings regarding time on task. Actual student involvement time, not necessarily scheduled time, has quite consistently been found to be a significant factor in achievement. Teachers were informed that classroom observations made at intervals during the year would concentrate on student on-task behavior with consideration given to the curriculum content and the strategies teachers and aides used to keep students on task. In the preschool classroom, educational goals can be associated with any classroom activity, even free choice, so the children's behavior should be monitored and on task virtually all the time.

During seatwork, the materials used for one curriculum objective were often suitable for use for other objectives at the same time. For example, children

could learn the names of animals, geometric shapes, numbers, or letters as well as colors in using crayons or paint. Higher level cognitive skills could also be taught simultaneously. Multiple use of materials, however, depended on the method of instruction which, in turn, influenced student involvement time. In one activity a teacher led children through an experiment on camouflaging by having them find and count colored toothpicks which she had scattered outside on the lawn. The children pretended they were birds and the toothpicks were worms. Later the children sorted the toothpicks they found into piles according to color, counted them, had the results charted, and discussed the findings in terms of camouflaging in nature.

The fact that materials can be used for more than one objective did not assure effective use of them for those objectives. For example, name cards are used for "seating" arrangement and for children to learn to recognize their names and names of others. During group activities children are frequently asked to take their places according to their name cards on the floor. In one activity in a classroom, a child who had not yet learned to recognize her name card wandered about and finally was led to her spot with the direction "This is your spot." No attempt was made to associate the spot with the child's name card. The child's behavior before and during the activity generally appeared off-task because she did not associate her name with her designated spot.

Children whose behavior appeared to be off-task more than others were generally more reluctant to get started on a task in the first place. And, when they started, they tended to finish quickly with less than their best effort. The consequence was often being able to do something they preferred to do. For example, in using scissors the poor quality of a cutout was generally attributed to the children's lack of maturity and not to their eagerness to complete the task

and get "free choice." One teacher, however, displayed samples of her children's work which indicated painstaking effort, concentration, and more time on task for students to complete. Thus, by emphasizing quality of work, especially where quality is important, more time on task can be achieved.

Attention to time on task appeared to be more characteristic of classes this year than in previous years. Generally speaking, reluctant learners or children who were not on task received more attention and received it more quickly. The teachers this year generally used very positive approaches when negative or off-task behavior was observed. For example, during storytime a teacher had a reluctant listener sit near her as the story was read. When the child's behavior was not appropriate, the teacher simply put her hand on or around him in an affectionate manner and the misbehavior ceased. Another teacher interrupted her story when students began to stir and asked questions frequently arousing anticipations about outcomes. These responses of the teachers to off-task behavior appeared to be quite spontaneous and unrehearsed. This year a much larger percentage of the students than ever before achieved 100 percent of the specific goals in each major curriculum area, and, perhaps, this accomplishment may be attributed to the attention to time on task.

Objections to the implication that children should be on task virtually 100 percent of the time are generally raised because it is assumed the task is the one assigned for the group, e.g., all students coloring pictures, and that some children will finish before others. On task, as defined in the Title I Preschool program, included other activities as long as they were educationally worthwhile and monitored by the teacher or aide. For example, as children finish a coloring task, they may be directed to look at books. If they played with toys instead,

and the activity was not monitored, it was not considered educationally worthwhile and the children's behavior was off task.

Monitoring the behavior of as many as 20 preschool students at all times and keeping them on task with proper instruction seems difficult for one teacher and aide. However, the task becomes manageable because with proper guidance, the children learn to manage themselves. Some actions such as exploiting aspects of the same learning task, consistently using fill-in activities, strategically locating certain students, and training aides and volunteers were observed and these tended to maximize on-task behavior. Most teachers used more or less formal codes of conduct for students to follow in certain activities. The main problem with more formalized procedures is maintaining their consistency, which is especially crucial for long-range consequences on children.

The importance of the aides in the classroom cannot be taken lightly. As far as their impact on students is concerned, it is as if they were teachers. Their presence itself is critical, and it is recommended that arrangements be made to assure that an aide be present every day and especially during the first few months. There are provisions for substitute aides; however, the option is available only under extenuating circumstances. This recommendation is predicated on observations made when an aide was not present.

In nearly all classes there are several children who tend to be distracted easily. When the aide was not present and the teacher had to direct the class as well as attend to the distracted student, one or the other had to be neglected. Despite the teacher's best efforts, disruptive behaviors tended to escalate and persisted in subsequent activities. As far as the children were concerned their behavior was acceptable - the lack of negative reinforcement tends to be positive

reinforcement for previous behavior. The children, of course, are unconcerned about the absence of the aide. Aides play an important role in managing students and should be trained in appropriate practices.

Inservice training for aides is available; however, it usually must be taken on the aides' own time. What little training they do receive is accomplished on-the-job, and there is too little time for teachers to tend to this task properly. Most aides generally do a satisfactory job with the academic curriculum, such as working with words, colors, and numbers, but they seem inadequate in their role in affective development and maintaining on-task behavior. Because most aides do not have sufficient background and training in education to enable them to translate theory into practice, they should receive training in affective development and particularly in proper techniques for maintaining on-task behavior. The training should be done in the classroom to facilitate the transfer.

Followup studies of former preschool students into kindergarten and into grades three and four were conducted. The findings tended to indicate diminutions in achievement during a four or five year period. Due to various considerations, the findings are considered tentative and further study is recommended. These studies should include more preschool students and also students in the primary grades, even those without preschool experience. More resources are needed to conduct a more comprehensive evaluation of early childhood education. Significant researchable questions are many.

Introduction

This final evaluation report concludes the tenth year of operation of the Title I Early Childhood Education (Preschool)* Program. The report, which is prepared largely as a narrative supplement to the Title I ESEA Evaluation Report, is organized into five major sections: comments and recommendations, introduction, description of the program, evaluation method and findings, and followup study of former program students. The purpose of the preschool program is to provide educationally disadvantaged children the experiences needed to ameliorate the disadvantages.

Description of the Program

Information for the program description was obtained by reviews of program documents and materials, observations of classrooms, and interviews with the staff. The description includes the following: (a) organization of the program, (b) characteristics of the student population, (c) recruitment and attendance, (d) facilities and learning materials, (e) daily educational activities, and (f) project costs.

Organization of the Program

The five Title I Preschool classrooms were located in three schools. Kenton and Vernon had one each and Sitton had three. Four classrooms held two sessions of 2 1/2 hours daily and the fifth held only one - a total of nine classes. The capacity of the program was 180 children on any one day in classes of 20 each.

*The term "preschool" will be used here to identify the program and students in prekindergarten. The term, early childhood education, has sometimes been used in other studies to include kindergarten and other primary grades.

Each classroom was staffed with a certified teacher and an aide. Three teachers were new to the program this year. The principal at each school provided overall supervision of the classroom and otherwise treated it like any other in the building. Specific administrative functions peculiar to the program were handled through the Title I Preschool Program Coordinator's office.

Characteristics of the Student Population

Table I shows the ethnic background of students enrolled during the 1981-82 school year. The majority was white (77 percent) with 23 percent being minority, which was slightly less than the 28 percent minority enrollment for the entire district. The total enrollment was slightly less than the previous year due to the reduction of one class, or about 25 students.

TABLE I

Ethnic Composition of Student Population

Ethnic Group	N	Percent
White	155	77
Black	35	17
Spanish Surname	5	2
Oriental	3	2
American Indian	3	2
	201	100

Ten students were considered handicapped. There were nine with speech handicaps and one with a motor disability. The speech handicaps were not particularly debilitating and virtually all were conditions which can be ameliorated. The other condition was a congenital defect which had to be accommodated in the classroom.

Recruitment and Attendance

Eligibility for participation in the program is based on age, residency within the boundaries of Title I school service areas, and an appraisal of the student as educationally disadvantaged. The appraisal is based on the family's education history (e.g., grades completed by parents and siblings), family size, and income.

Enrollment of students in the Title I preschool program is voluntary. Parents who seek to enroll students are interviewed to determine the reasons for enrolling their children, family's educational history, children's medical history, and factors which might influence the children's educational achievements positively as well as negatively. Children who have reached their fourth birthday are given preference over three year olds, and only a few younger children are ever enrolled. Accommodations are usually made during the year for children who were attending preschool programs in other cities or states and sought to become enrolled in the Portland schools.

Knowledge of the program is usually gained through word of mouth, with some students referred by schools and human service agencies. The program has become well-known so that by the end of a school year, enrollment for the next year is virtually complete. A waiting list of eligible students is maintained so vacancies are filled without significant delay.

Student attendance each month is shown in Table 2 for all classrooms combined. The percent student attendance is determined by dividing the total days present by the total days membership. The resulting figure represents the percent of students in attendance on a typical school day. The monthly averages tend to be

about 85 percent, which is about the same as the averages of the previous years. Over the past few years, averages for kindergarten children have been about 85 percent; averages for K-12 students tend to be about 90 percent.

TABLE 2

Percent Student Attendance

Month	Percent
September	93
October	89
November	88
December	86
January	82
February	83
March	82
April	83
May	86
June	82

Tabulations of individual attendance indicated some students were absent more frequently than others. Nearly one-half (47 percent) of the 150 students who were enrolled for the full year were absent more than 20 days; 15 students (10 percent) were absent more than 50 days. A large number of absences for a single year with extenuating circumstances may not be especially undesirable, particularly at the preschool level. However, if high frequencies of absences persist for students in subsequent grades, the pattern could result in serious handicaps for the children. Unfortunately there are no generally acceptable standards by which attendance at the preschool level can be judged as satisfactory/unsatisfactory.

The question of student turnover, especially among disadvantaged children, arises frequently. As indicated above, attendance records indicated 150 (75 percent) were enrolled for the full year. Last year 68 percent were enrolled for the full year.

Facilities and Learning Materials

The facilities and materials in the classrooms appeared adequate for conducting a program of this nature. Each classroom has a record player which is used almost daily; projectors and tape recorders/players are shared with other classrooms in the school. Besides the classroom work area, furnishings are generally arranged to provide a library area with a large number of books, a housekeeping area with housekeeping equipment, and a play area with numerous puzzles and games. Some classrooms accommodate for growing plants, play-store, and listening center. Teachers and aides show considerable ingenuity especially in designing quantities of the consumable work material used almost daily. In general, the materials and equipment appeared appropriate to facilitate meeting the instructional goals as shown on the Record of Goal Mastery (attached).

Daily Educational Activities

As in past years, there is a great similarity among classrooms in the kinds of activities one would observe. There is a mixture of large and small group activities alternated during a session. Sessions usually begin with a large group activity involving roll call; the identification of the day, date, month; and a description of the kind of weather. Small group activities identified with the achievement goals usually follow. Although there are variations in schedules

across classrooms, they generally include a story time, large and/or small motor development activity, and snack time all of which are conducted in large group settings. Free play and most of the specific academic skill development activities are usually individual or small group arrangements. The design for each activity is largely the discretion of the teacher.

Project Costs

The budget for the 1981-82 school year is shown in Table 4. The major cost item, of course, is salaries and benefits for staff. An estimate of the cost-per-pupil is derived by dividing the total budget of $192,972 by the average daily membership (N = 175). Using this formula the average cost-per-pupil was $1,103.

Evaluation Methodology and Findings

Classroom instruction usually involves those achievements or skills which are least dependent on maturation for attainment. Language skills and numerical concepts, along with some small motor and social skills, are largely learned. On the other hand, large motor and perceptual skills -- are mostly acquired -- those which are highly associated with physical maturity -- Evaluation for Title I purposes reflects this priority of instruction.

The evaluation information is organized according to the program goals in the four subject areas of language, arithmetic, small motor skills, and social skills. The Record of Goals Mastery was used in the fall (October) and again in the spring (May) to record the achievements of goals in these areas. The data were

TABLE 4

Program Budget

Item	Amount
Instructional Personnel:	
Classroom Teachers	$ 68,045
Aides	28,986
Benefits (36%)	34,931
Support Personnel:	
Speech Therapist	7,000
Secretarial	10,659
Evaluation Specialist	3,250
Other	4,000
Benefits (36%)	8,968
Transportation:	
Student Transportation (Daily)	11,780
Student Transportation (Field Trips)	1,000
Student Consumables:	
Supplies	1,980
Food	1,890
Miscellaneous:	
Telephone and Telegraph	270
Local Conferences and Meetings	237
Parent Training and Activities	400
Office Supplies and Postage	650
Administrative Overhead	8,926
	$192,972

tabulated to show the percentage of students who demonstrated mastery of the skill at each testing. Differences in the percentage of students demonstrating mastery at each testing indicate the achievements of the students during the year. The scores and differences shown in Tables 5, 6, 7 and 8 are based on students with matched fall and spring scores.

Language

As shown in Table 5, the percent of students demonstrating mastery of each language skill by the end of the school year ranged from a low of 83 percent to a high of 100 percent. The percent of students who possessed the skill at the end of the year ranged from 18 to 63 percent, depending on the particular skill. About one-third to two-thirds of these achieved the skills during the year. In general, achievements in language apeared to be slightly better than they were last year, and noticeably better than the five years previous to that, with higher percentages of students demonstrating mastery, and higher percentages mastering these skills during the year. Some caution should be exercised in interpreting this finding because individuals differ in how they use rating scales, and, due to turnover, the composition of the teaching staff changed each year.

Identifying common objects, e.g., parts of the body, animals, and describing objects according to colors and locations are skills achieved most easily by children and demonstrated most frequently by children. These skills are also those most commonly reinforced at home or outside of school. Mastery of language skills more characteristically associated with school, such as giving answers to questions about a story or reciting rhyming combinations, was demonstrated less frequently.

Arithmetic

Table 6 shows the percent of student achievements in arithmetic skills. The percent showing mastery at the end of the school year ranged from 73 to 96 which is only slightly less than that for language. The percent achieving the skill during the year ranged from 36 to 73, depending on the particular skill. Arithmetic skills are largely achieved at school and not practiced as much at home or outside of school.

The pattern of achievement in arithmetic over the years is like that for language, i.e., in general there was a higher percentage of students demonstrating mastery at the end of the year and a high percentage achieving mastery of these skills during the year. Again, the same caution due to teacher differences holds in the interpretation of these findings.

Nearly all of the arithmetic skills appear to be those addressed most commonly in schools, and not in homes or outside of school. Perhaps for this reason the percent of children demonstrating mastery of arithmetic skills is slightly lower than for language at both the pretest and posttest observations. Mastery of quantity and size comparisons is demonstrated more frequently than skills which are more academic in nature, e.g., associating symbol with number.

Small Motor Skills

Achievements of small motor skills are shown in Table 7. The children mastered most of these skills quite easily, with over 70 percent acquiring the more difficult skills of using scissors, using opposing thumb, and pounding nails during

the year. Over 95 percent of the children demonstrated mastery of the small motor skills by the end of the school year except for pounding nails, which is a difficult task even for adults. In one classroom, however, all children had experience on this task; and by the end of the year, all were able to perform the task satisfactorily. A chunk of log, hammer, and nails were always there for students to practice. Another classroom concentrated on using scissors, and by the end of the year virtually everyone did an excellent job as demonstrated by cutouts of circles.

Again, the pattern of achievement of the small motor skills over the years was like that for language and arithmetic, i.e., achievements for the 1981-82 school year were generally slightly higher than last year, and noticeably higher than the years previous to that.

Social Skills

Table 8 shows the achievements of social skills. The percents of students demonstrating mastery in the fall are high, and, perhaps for this reason the percents achieving the skills during the year are generally lower than those achieving the skills in other areas. Social skills usually are not taught as a separate entity; rather, other learning activities are arranged or conducted in a manner to cultivate these skills. Many of these skills are also taught and practiced at home or outside of school, so many children acquire them there. In view of observations made this year, and elaborated in the next section of this report, it may be appropriate to assess social skills in the context of specific kinds of learning activities.

In general, social skills involving interactions with others are achieved more readily than those involving the child alone. For example, more children demonstrate mastery of sharing toys than they do of overcoming fear of new situations. The patterns of achievement of social skills over the years are comparable, i.e., the percents showing mastery of the skills at the end of the school year are comparable to those of previous years.

The achievements of the students in the four skill areas of language, arithmetic, small motor, and social skills tended to be quite satisfactory with over 80 percent of the students mastering 75 percent or more of the skills in each area. In general, the performances appeared to be better than they were in previous years, and other data tend to support this observation.

Table 9 shows the percentages of students demonstrating mastery (expressed as percentages) of the objectives for each subject over the last six years. The results for Spring 1982 show that in each subject 50 percent or more of the students demonstrated mastery of all goals. The percentages of students mastering 100 percent of the goals in each area exceed those for previous years except in Social Skills, where the percentages were about the same every year. Perhaps the attention given to time on task accounts for the increases in performances.

TABLE 5

Language Skills

N = 153

LANGUAGE SKILL	Percent Mastering Skill: Pre. Test	Post. Test	% Gain
Describes objects according to their characteristics			
Colors:			
(red, yellow, blue)	60	93	33
(green, orange, purple)	50	90	40
(brown, black, white)	56	91	35
Location:			
(stove, bed, toilet, refrigerator, bathtub, sofa)	69	95	26
Answers simple questions by giving answers in complete sentences	37	91	54
Identifies common objects:			
(head, leg, arm)	82	100	18
(eyes, nose, mouth, ears, foot, knee, hand, fingers)	72	99	27
(rabbit, dog, cat, bird)	71	99	28
(horse, chicken, cow, goat, sheep)	35	90	55
(lion, tiger, monkey, elephant, seal, camel, bear, giraffe)	27	83	56
Listens with increasing attention span:			
(longer or more complex stories can satisfactorily be presented by the teacher as the year progresses)	25	87	62
Expresses self freely & clearly:			
(notifies teacher when it is appropriate e.g., when s/he needs help or permission)	39	92	53
Gives clearly spoken, spontaneous answers to questions about a story	27	83	56
Orally identifies four simple rhyming combinations	12	75	63
Understands and uses simple prepositional relationships:			
(places objects in front of, behind, beside, under, around, inside, outside, on)	36	93	57

TABLE 6

Arithmetic Skills

N = 155

ARITHMETIC SKILL	Percent Mastering Skill: Pre. Test	Post. Test	% Gain
Recognizes and identifies simple shapes:			
(points to and names: circle, square, triangle)	39	90	51
points to and names: (rectangle, diamond)	08	76	68
Distinguishes comparative sizes and quantities:			
(points to those objects that are identical in size within a group)	49	95	46
(points to the smallest & largest of six objects)	52	96	44
(points to which group has more & which has less of two groups of objects-e.g., 3 pencils & 6 pencils)	56	95	39
(places in order six objects of different size)	33	87	54
Associates numerals with the quantities 1-5:			
(states orally the appropriate numeral when shown from one to five objects)	49	85	36
(associates the oral numerals (zero to five) with the appropriate numerical symbol (0 to 5)	27	78	51
Begins to understand the concept of sets:			
(points to a set of objects that are placed among non-set objects)	05	78	73
Understands the concept of one more and one less:			
(points to which group contains one more object and which contains one less object than a comparison group)	33	90	57
Understands the concept of zero:			
(states orally when zero objects of a given type are presented)	11	73	62

TABLE 7

Small Motor Skills

N = 153

SMALL MOTOR SKILL	Percent Mastering Skill		
	Pre. Test	Post. Test	% Gain
Pinches off bits, squeezes, pounds, pats and pushes clay or dough	80	100	20
String beads	82	100	18
Manipulates puzzles: stacks materials, pegs, parquetry blocks	76	100	24
Uses crayons, paint brushes, and pencils	66	99	33
Uses scissors correctly	19	93	74
Uses opposing thumb* (N = 119)	21	96	75
Pounds a nail with a hammer* (N = 100)	27	99	72

*Achievements on these goals were not evaluated in all classes. Numbers involved are shown in parentheses.

TABLE 8

Social Skills

N = 153

SOCIAL SKILL	Percent Mastering Skill		
	Pre. Test	Post. Test	% Gain
Participates in a variety of activities during free play	66	93	27
Shares classroom toys with other children	66	89	23
Helps others when requested to do so	78	94	16
Uses classroom materials in the appropriate fashion	66	93	27
Able to play or work in small groups of peers (e.g., does not fight, dictate, or demand or submit to others)	51	80	29
Communicates with adults (e.g., does not demand excessive attention, ignore other children in favor of adults, reject adults and/or act in a hostile fashion toward adults)	60	89	29
Able to encounter new situations in the classroom without fear (e.g., the student does not withdraw or lag back)	44	84	40
Demonstrates safety consciousness (e.g., awareness of dangerous objects, follows orders of teacher regarding safety issues)	34	82	48

TABLE 9

Percentages of Students Achieving 100, 75-99, and Less Than 75 Percent of the Goals in Each Subject (1977 to 1982)

Year	Percentage	Reading/ Language	Numerical	Small Motor	Social Skills
1977	100%	16	19	33	55
	75-99%	79	58	64	38
	75%	05	23	03	07
1978	100%	18	16	37	73
	75-99%	61	40	56	20
	75%	21	44	06	07
1979	100%	15	15	45	Not Determined
	75-99%	39	27	20	
	75%	46	58	35	
1980	100%	26	33	71	71
	75-99%	56	32	15	20
	75%	18	35	14	09
1981	100%	30	18	30	67
	75-99%	53	50	68	22
	75%	17	32	02	11
1982	100%	52	50	86	63
	75-99%	39	36	11	20
	75%	10	14	03	17

Follow-up Study of Former Program Students

Overview of Previous Studies

In November 1977, a study was conducted to compare performances of kindergarten children enrolled in the Title I preschool program during the previous school year (1976-77) with those of Title I kindergarten students who did not have preschool experience. The comparison group of students enrolled in Title I programs was selected because in terms of variables used for selection, Title I preschool students would have been likely candidates for selection for Title I in kindergarten.

The results of the survey showed the performances of the students with preschool experience were higher than those of the comparison group on 15 of 17 measures and virtually equal on the other two. The differences on each measure were small (statistically not significant), but they were quite consistently in favor of the preschool over the non-preschool group.

In Spring 1979, almost a year and a half later, another follow-up was conducted to compare the performances of the same groups of students in grade one. In addition to this follow-up, another of the 1977-78 Title I preschool students enrolled in kindergarten was conducted. For the 1979 study, ratings on eight indicators of achievement in school were obtained using six-point rating scales.

The results of the grade one students showed the mean scores of the Title I preschool group were higher than those of the comparison group on all eight

measures. It was significant to note that on measures of basic skills development (oral language, written language, reading, and mathematics), the mean scores of the Title I preschool group were about 3.50, which is about average on the scale of one to six. The mean scores of the comparison group, the sample of Title I students in the same schools, were about 3.00, or slightly below average on the eight measures. The scores of both groups on two motor skills measures and two measures of social skills were about .50 higher than on the basic skills measures.

For the follow-up of Title I preschool students of 1977-78 into kindergarten, information was obtained for as many as could be found in the District schools, and no comparison group was used. Teachers were instructed to rate the students' performances relative to other students in that grade. The mean ratings of the former preschool students were about 3.50, or about average, on four measures of academic achievement, and slightly above average, about 3.70, on two measures of motor skills and two measures of social development. These ratings were about the same as those obtained for former preschool students of the previous year. The data from the two follow-up studies tended to support the contention that Title I preschool had a positive effect.

Follow-up Studies of 1981-82

Achievement test scores for students enrolled in 1976-77 and 1977-78 were obtained from the city-wide testing program of Fall 1981. Of 104 former preschoolers of 1976-77 for whom test scores were available, 49 were in grade three and 55 in grade four. Of 111 former preschoolers from the 1977-78 classes, testing information indicated 78 were in grade three (five without test scores); 33 more were found on enrollment records as being in grade two.

Each year a number of younger preschool students with birthdates after the regular fall cut-off date are recommended for reenrollment in preschool; however, the number that appeared to be held for two years in one grade or another -- as indicated by the test information -- was much larger than the number expected for preschool reenrollment alone. A search through District enrollment lists was made to examine student progress. For 222 students enrolled in Fall 1981, 126 (57 percent) had apparently progressed one grade each year. However, 53 (24 percent) were reenrolled in preschool or placed in special education the year following their initial preschool enrollment, and 43 (19 percent) were held for two years in one grade or another a year after preschool. Other than for some preschoolers, reasons for students apparently being held for two years in one grade are not known.

Fall 1981 achievement test scores of former preschool students of 1976-77 and 1977-78 are shown in Table 1. Scores for comparison groups comprised of students from the given preschools and surrounding schools are also included. Program classrooms were located in lower income areas and served students from these areas, so scores for students attending these schools are assumed to be more appropriate for comparison purposes than scores of students in the whole District.

The mean scores of former preschool students of both years who advanced a grade each year are lower than those of their respective comparison groups in all three subjects. This finding is somewhat disconcerting considering the assumption that the former preschool group represents a fairly stable population which remained in Portland schools for four or five years.

Table 1
Fall 1981 Achievement Test Scores of
Former ECE Students and Comparison Students

ECE Students of 1976-77 — RIT Scores

Grade 3:	Comparison	ECE (N=49)	Difference (C-ECE)
Reading	181.93	182.73	-0.80
Math	179.91	181.79	-1.88
Language Usage	187.36	186.88	0.48
Grade 4:	**Comparison**	**ECE (N=55)**	**Difference (C-ECE)**
Reading	193.69	190.04	3.65
Math	192.62	191.76	0.86
Language Usage	194.45	192.81	1.64

ECE Students of 1977-78

Grade 3:	Comparison	ECE (N=73)	Difference (C-ECE)
Reading	184.84	183.60	1.24
Math	181.52	180.20	1.32
Language Usage	189.55	187.46	2.09

Preschool students of 1976-77 who appeared to have been held for two years in one grade or another appeared to achieve slightly more than comparison students in the same grade in reading and math, but less in language usage. As indicated earlier, the reasons students were held for two years are not known; so, the differences favoring the preschool group might not be attributable to an additional year of schooling.

To overcome some weaknesses in the follow-up studies conducted earlier, a similar one following preschool students in the 1980-81 classes into kindergarten one year later was conducted. A comparison group was selected by matching students on the basis of school, sex, and, to the extent possible, on month of birth and ethnic group. All available District records were reviewed to determine that comparison group members had never been enrolled in a preschool program. Data were obtained for matched groups of 95 students each. The assumption was the performances of the two groups would have been equal

without preschool, and that any observed differences were attributable to the preschool experience. Students were located in 17 different schools.

Teachers were asked to rate each student's achievements in six skill areas using six-point rating scales (see attachment). Students were to be rated below average (1-2), average (3-4), or above average (5-6) compared to other students in the class. Mean ratings were calculated for the preschool and non-preschool groups for the six skill areas. The results are shown in Table 2.

Table 2
Comparisons of Preschool and Non-Preschool
Student Achievements (N=95)

Skill Area	Preschool Mean	Preschool SD	Non-Preschool Mean	Non-Preschool SD	Mean Difference
Ability to remain on task	3.92	1.45	3.33	1.32	0.59*
Language Skills	3.69	1.35	3.37	1.27	0.32
Numerical Concepts	3.76	1.25	3.43	1.25	0.33
S nall Motor Skills	3.72	1.32	3.42	1.23	0.30
Large Motor Skills	3.83	1.19	3.57	1.12	0.26
Social Skills	3.83	1.38	3.39	1.23	0.44*

*Significant at p = .05 or better

Although teachers making the ratings used separate forms for each student and were not informed which were the preschool or non-preschool students, they may have learned it during the year. Also, it was not feasible to match students according to classroom to have the same teacher rate each member of a pair; therefore, it is assumed that teachers' biases in rating, e.g., tendency to rate high or low, are balanced between groups. Previous investigations indicated there were no reasons to believe the ratings would be biased in favor of one group or the other.

The results of the sign test indicate there was a significant difference between the kindergarten achievements of the preschool and non-preschool groups across the six areas -- the mean scores of the preschool group were all higher than the scores of the non-preschool group, indicating group differences. Differences for ability remain on task and social skills reached the accepted level of significance ($p<.05$), when examined by t-test.

It was interesting to note that all but 4 of the 95 former preschool students were found in Title I schools, mostly in the areas served by the preschool classes. The same would hold for the comparison group. In Table 1 the mean achievement scores for the comparison groups comprised of students attending schools in areas served by the preschool classes, mostly Title 1 schools, were slightly lower than the District means. Similarly, in Table 2 the mean ratings of the non-preschool comparison group are all slightly lower than 3.50, indicating achievements were, perhaps, slightly lower than District ratings might be.

Comments on Follow-up Studies

There were two main purposes for conducting the follow-up work described here: (1) to determine the performances of former preschool students who remained enrolled within the Portland Public Schools, and (2) to identify and compile baseline data for future evaluation purposes.

Follow-up data compiled for former Title I preschool students tended to indicate positive effects through kindergarten and, perhaps, in grade one. However, students who advanced a grade each year and who were later enrolled in grades three and four showed achievement scores which were slightly lower than

comparison groups assumed to be their classmates. The apparent diminution of achievement over the three or four year interval is quite unexplainable and needs to be substantiated and studied. The finding of so many students being held for two years in a grade was quite unexpected, and the implications of this for analyzing data need to be studied also.

Considerable effort is now being mounted to improve the achievement of District students, and the effort includes the primary grades. Data from the follow-up of preschool and comparison children and the various considerations learned in the follow-up studies will be useful in subsequent achievement data analyses. More effort should be devoted to the evaluation of all primary education, particularly if diminutions of achievement are substantiated or found among students who, with or without preschool experience, perform well in kindergarten and grade one. Nationally, much has been invested in demonstrating the diminishing effects of early childhood education, mainly preschool, but little has been done to eliminate or reduce it.

Student's Name _____ Teacher's Name _____

Student's Birth Date _____

EARLY CHILDHOOD EDUCATION
Record of Goals Mastery

Working — skill has been introduced and instruction is still needed.
Mastery — skill has been mastered.

	Sept		May	
	Working	Mastery	Working	Mastery
Language Skills				
Describes objects according to their characteristics				
Colors: (red, yellow, blue)				
(green, orange, purple)				
(brown, black, white)				
Location: (stove, bed, toilet, refrigerator, sink, bathtub, sofa)				
Answers simple questions by giving answers in complete sentences				
Identifies common objects: (head, leg, arm)				
(eyes, nose, mouth, ears, foot, knee, hand, fingers)				
(rabbit, dog, cat, bird)				
(horse, chicken, cow, goat, sheep)				
(lion, tiger, monkey, elephant, seal, camel, bear, giraffe)				
Listens with increasing attention span: (longer or more complex stories can satisfactorily be presented by the teacher as the year progresses)				
Expresses self freely & clearly: (notifies teacher when it is appropriate — e.g., when s/he needs help or permission)				
Gives clearly spoken, spontaneous answers to questions about a story				
Orally identifies four simple rhyming combinations				
Understands and uses simple prepositional relationships: (places objects in front of, behind, beside, under, around, inside, outside, on)				
Numerical Concepts				
Recognizes & identifies simple shapes: (points to and names: circle, square, triangle)				
(points to and names: rectangle, diamond)				
Distinguishes comparative sizes and quantities:				
(points to those objects that are identical in size within a group)				
(points to the smallest & largest of six objects)				
(points to which group has more & which has less of two groups of objects — e.g., 3 pencils & 6 pencils).				
(places in order six objects of different size)				
Associates numerals with the quantities 1 to 5: (states orally the appropriate numeral when shown from one to five objects)				
(associates the oral numerals (zero to five) with the appropriate numerical symbol (0 to 5)				
Begins to understand the concept of set: (points to a set of objects that are placed among non-set objects).				
Understands the concept of one more and one less: (points to which group contains one more object & which contains one less object than a comparison group)				
Understands the concept of zero: (states orally when zero objects of a given type are presented)				
Small Motor Skills				
Pinches off bits, squeezes, pounds, pats and pushes clay or dough				
Strings beads				
Manipulates puzzles; stacks materials, pegs, parquetry blocks				
Uses crayons, paint brushes, and pencils				
Uses scissors correctly				
Uses opposing thumb				
Pounds a nail with a hammer				

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	Sept		May	
	Working	Mastery	Working	Mastery
Social Development				
Participates in a variety of activities during free play				
Shares classroom toys with other children				
Helps others when requested to do so				
Uses classroom materials in the appropriate fashion				
Able to play or work in small groups of peers (e.g., does not fight, dictate, demand or submit to others)				
Communicates with adults (e.g., does not demand excessive attention, ignore other children in favor of adults, reject adults and/or act in a hostile fashion toward adults)				
Able to encounter new situations in the classroom without fear (e.g., the student does not withdraw or lag back)				
Demonstrates safety consciousness (e.g., awareness of dangerous objects, follows orders of teacher regarding safety issues)				
Additional Skills				
Teachers may find the remainder of this form useful in assessing the following skills.				
**********				
Art and Music				
Willingness to participate in art activities				
Handles art media and tools appropriately				
Participates in dance and circle games				
Detects differences between fast and slow music				
Sings words and follows along in time to songs frequently sung in class				
Distinguishes between loud and soft sounds				
Large Motor Skills				
Walk backwards				
Stand and run on tiptoes				
Roll a ball to another person and catch it from a sitting position				
Hop in place on each foot				
Go up and down stairs using alternate feet				
Do a standing bread jump				
Stand on each foot for eight seconds				
Gallop				
Skip on one foot with alternate foot stepping				

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Student's Name_____ School No._____

Student Rating Form

Please rate this child's general achievement by circling the appropriate number for each item.

In using the scale, rate the child's achievements by comparing them with other students in the class.

Level of Achievement in:	Achievements as compared to other students in the class		
	Below Average	Average	Above Average
A. Ability to remain on task	1 2	3 4	5 6
B. Language skills	1 2	3 4	5 6
C. Numerical concepts	1 2	3 4	5 6
D. Small motor skills	1 2	3 4	5 6
E. Large motor skills	1 2	3 4	5 6
F. Social skills	1 2	3 4	5 6

Please make any comments you may wish:_____

_____

_____

_____

KY/ams
3/1/82